

### Abstract

The present invention is directed to a process for producing CMP-N-acetylneuraminic acid (CMP-NeuAc), characterized in that the process includes adding yeast cells, N-acetylglucosamine-6-phosphate 2-epimerase (GlcNAc-6P 2-epimerase), N-acetylneuraminic acid lyase (NeuAc lyase), and CMP-N-acetylneuraminic acid synthase (CMP-NeuAc synthase) to a reaction system containing N-acetylglucosamine (GlcNAc), pyruvate, and cytidine 5'-monophosphate (CMP), and inducing reaction of the mixture.

The present invention is also directed to a process for producing CMP-N-acetylneuraminic acid (CMP-NeuAc), characterized in that the process includes adding yeast cells, N-acetylglucosamine-6-phosphate 2-epimerase (GlcNAc-6P 2-epimerase), N-acetylneuraminic acid synthase (NeuAc synthase), and CMP-N-acetylneuraminic acid synthase (CMP-NeuAc synthase) to a reaction system containing N-acetylglucosamine (GlcNAc) and cytidine 5'-monophosphate (CMP), and inducing reaction of the mixture.